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EP A1 0022652
US 3640379
US 3596822
US 3487919

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Selected US specifications from IPC sub-class B65D

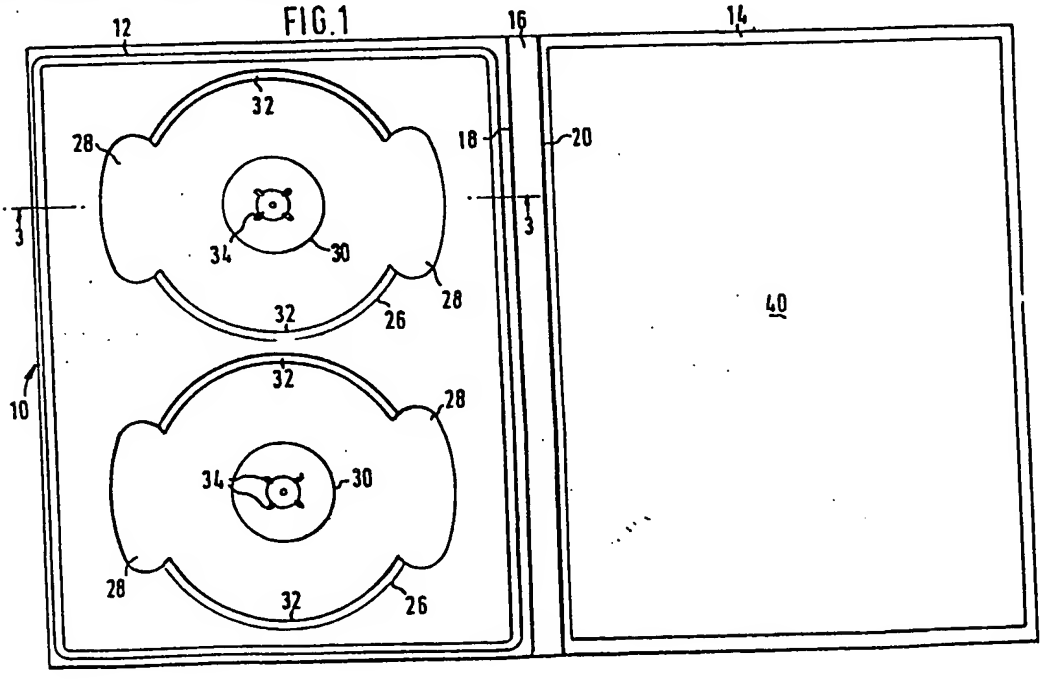
(54) Storage box

(57) A storage box 10 for compact discs (CDs) or compact cassettes is in the form of a book having two main parts 12, 14 interconnected by a strip 16. The boundary between the parts 12, 14 and the strip 16 is represented by fold lines 18, 20 so that the strip 16 acts as an integral hinge.

A tray-like member 24 is secured by its edges to the internal face of part 12.

The part 24 has to recesses 26 for respectively accommodating a CD or cassette. Each recess 26 has a pair of finger holes 28. Each recess 26 has a central, disc-like portion 30 to support a CD together with a pair of ledges 32 diametrically oppositely located at the edges of the recess 26 or analogous formations to locate a cassette. Centrally, the raised portion 30 has four resilient upstanding and outwardly slanted lugs 34 designed frictionally to engage in the central aperture of a CD and frictionally but yieldingly to retain the latter in position. The part 14 of the box 10 may be formed as desired to accommodate a booklet.

FIG.1



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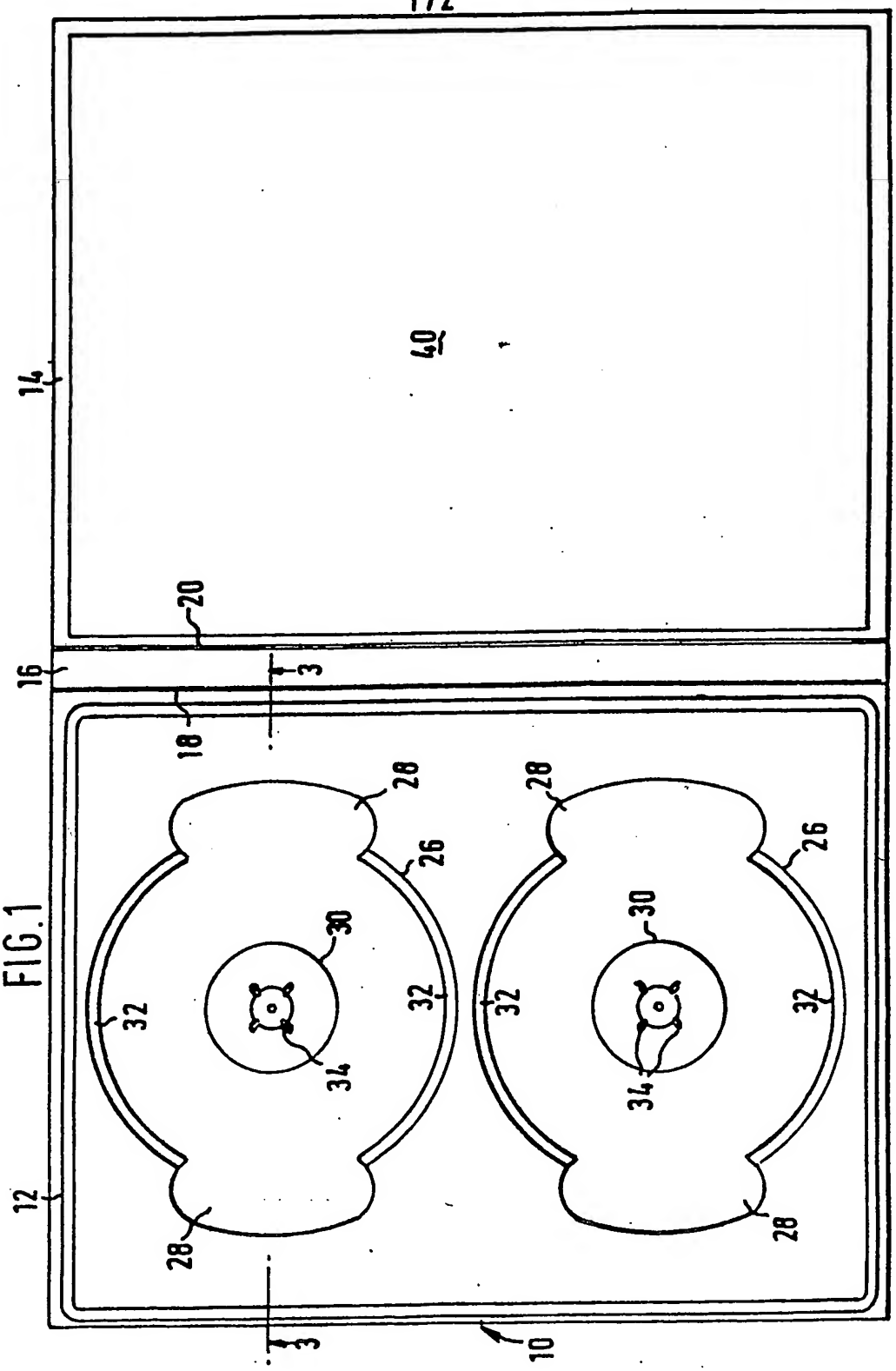

FIG.1

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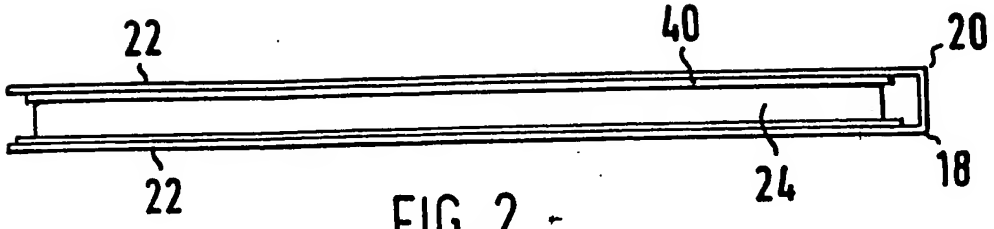

FIG. 2

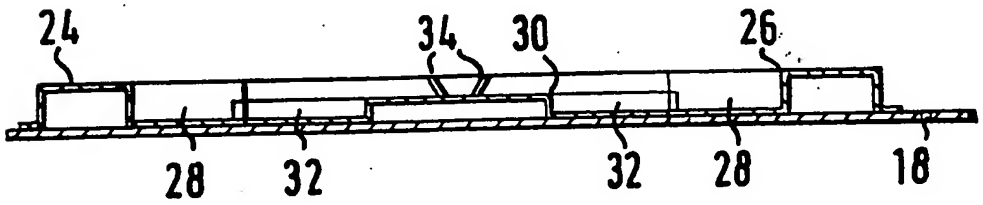

FIG.3

SPECIFICATION

Storage box

This invention concerns a storage box for discs having a central aperture such as the recently commercialised compact disc audio records, hereafter referred to simply as 'CD', and for audio cassettes known as 'compact cassettes' which, of course, have to spaced apart apertures in their central region. However, in principle the invention is applicable to any flat thin disc having a central aperture, e.g. laser discs or ordinary phonographic records. Nevertheless, hereafter the invention will be particularly described with reference to its use in CD storage.

As mentioned above, CDs have appeared relatively recently on the market. They are used primarily, although not exclusively, for classical music. They are marketed in boxes of the so-called 'jewel case' construction made of clear rigid plastics material. It is frequently desirable to include with the CD notes analogous to the sleeve notes of phonograph records in order to give information relating to the music recorded on the CD.

While CDs themselves have been very successful primarily because of the superior recording and reproduction qualities for music, the conventional storage box for CDs suffers from a number of problems. One such problem is that the rigid plastics transparent casing can be shattered by the impact of a heavy object accidentally dropped on it and replacements are difficult to obtain. Moreover, should the casing shatter, the highly sensitive surface of a CD inside it may be damaged.

Another problem associated with currently available CD storage boxes is that the material from which they are conventionally made can easily be cracked or scratched by the normal wear and tear and when that happens their transparency is impaired. Thus the user may then no longer readily see the internal label or note associated with the music on the CD. Moreover, once the box is cracked air and moisture may penetrate into the box and this may also cause damage to the playing surface of the CD.

For classical music, it is frequently desired to include quite extensive notes concerning the history of the composition, biographical notes of the composer, technical notes concerning the recording as well as the personal details of the performing artists. However, the currently available CD boxes are not well suited for such extensive notes. In order to accommodate the detail required, the print face has to be small which makes it hard and inconvenient to read the booklet and in any case a limit is imposed on the length of the notes. Moreover, the removal and reinsertion of and general access to the notes is basically cumbersome.

Another inconvenience involved in current CD boxes is that they are difficult to store. They are simply the 'wrong' size for commercially available storage systems for e.g. audio cassettes while on the other hand commercially available bookshelves are not well suited to them either.

A drawback of the plastic 'jewel case' construction is that the hinge pins are quite vulnerable and if they should break off, the whole box becomes unusable. A further inconvenience is the need to provide the material of the 'jewel case' in a clear and transparent plastic in order to enable a user or prospective purchaser to see the print inserts.

Another major disadvantage of known 'jewel cases' occurs where the recording requires more than one disc. The display of a double disc is quite problematic and the storage boxes for double disc recordings have to be purpose made. Those that are currently available are awkward because they do not fit onto any storage systems developed for compact discs at all. Furthermore, those double disc cases that have been developed have two sets of hinges and open in two directions.

Last but not least, the 'jewel case' plastic boxes are far from cheap to make.

The present invention seeks to overcome, or at least reduce, the above-mentioned disadvantages and provide a storage box for discs having a central aperture, e.g. CDs, which may be made by a less expensive technology than before, which will not crack, which can be printed on for display, which can readily accommodate sleeve notes in the form of a booklet utilising normal print sizes, which is flexible in that respect so that the booklet may be fixed into the box or may be removable, which is of the size of a standard book to fit conventional shelves, which has a solid and therefore not vulnerable hinge, which permits ready access to the discs, which can readily take two discs and which can be fabricated from a material less expensive than the plastic material of current CD boxes.

According to the present invention, therefore there is provided a storage box for discs having a central aperture, or for cassettes having two apertures in a central region thereof, which is as claimed in claim 1.

The invention is described, purely by way of example, with reference to the accompanying drawings, wherein:-

Figure 1 is a plan view of a CD storage box in its opened-out form;

Figure 2 is an end elevation of the box of Figure 1, shown in its closed position, and

Figure 3 is a cross-section through one part of the box.

Referring now to the drawings, there is shown a storage box for compact discs according to the invention, the box being generally designated by the reference number 10. The box 10 is in the form of a book having two main parts 12, 14 interconnected by a strip 16. The boundary between the parts 12, 14 and the strip 16 is represented by fold lines 18, 20 so that the strip 16 acts as an integral spine or hinge.

The preferred material for the box 10 is paper board and the faces of the part 12, 14 which are on the outside when the 'book' or box is closed may be covered by a laminated plastics material to make those surfaces wipable as well as resilient to moisture or water. The outer faces 22 may accordingly readily be printed on and printing on the hinge portion is also easily accomplished. It is accordingly not necessary for the outer surfaces to

be transparent. The board material is preferably relatively stiff and strong to provide adequate protection for the contents against mechanical shocks.

Referring now to Figure 1, a generally tray-like member 24 is secured by its edges to the internal face of part 12. The part 24 is preferably a lightweight vacuum-formed member possessing adequate mechanical strength for the purpose about to be described.

The part 24 is formed with two generally circular recesses 26 for respectively accommodating a CD. As may be seen, each recess 26 has a pair of diametrically opposite finger holes 28. The number and disposition of the finger holes may be varied, but it should be noted that the illustrated configuration of the finger holes 28 is suitable to accommodate both left-handed and right-handed people and therefore any variation in the shape, size and number of finger holes should preferably retain this expedient feature.

Each recess 26 has a central, raised, disc-like portion 30 which is in fact one of two support surfaces for a CD. The other support surfaces for a CD are a pair of ledges 32 diametrically oppositely located at the edges of the recess 26.

Centrally, the raised portion 30 has four resilient upstanding and outwardly slanted (Figure 3) lugs 34 designed frictionally to engage in the central aperture of a CD and frictionally but yieldingly to retain the latter in position. The actual shape of these lugs 34 as well as the number and disposition may vary, provided that their above-mentioned function is retained.

The other part 14 of the box 10 may be formed as desired to accommodate a booklet containing descriptive and/or illustrative relating to the subject of the recording (e.g. music, play) on the CD. The may be stapled or glued to the part 14, or the part 14 may have an essentially triangular flap or pocket attached to it into which a booklet may be removably inserted. However, other methods of retaining booklets may be envisaged.

When the box 10 is adapted for audio cassettes, the shape of the recesses 26 is adapted suitably to their shape and for each hub of a given cassette there is a corresponding arrangement of lugs.

CLAIMS

1. A storage box for discs having a central aperture, or for cassettes having two apertures in a central region thereof, having a central aperture, the box being of book form comprising two parts interconnected by an integral solid spine/hinge portion, one of said parts having on its internal face two recesses for accommodating a respective disc or cassette, each recess being dimensioned for snug frictional engagement of a disc or cassette therein and having at least one finger hole for access by a user to a disc or cassette held in the said recess, and means upstanding at the centre region of each recess for frictional engagement with the edges of the central aperture in the disc, or with the edges of each aperture in the cassette.

2. A storage box according to claim 1, wherein the box is made of paper board.

3. A storage box according to claim 2, wherein the paper board is covered by a laminated water-resistant plastic material on the external surfaces of the box.

4. A storage box according to any preceding claim, wherein said one part has a vacuum-formed member secured to its internal face and said recesses form part of said member.

5. A box according to any preceding claim, wherein the said upstanding means is a cluster of resilient, outwardly slanted lugs.

6. A storage box substantially as herein described with reference to and as shown in the accompanying drawings.

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